CALIFORNIA DEPARTMENT OF FISH AND GAME
OFFICE OF SPILL PREVENTION AND RESPONSE

Oil Spills in California

Oil spills occur in many ways. Marine oil spills can result from leaks or breaks in vessel fueling equipment, vessel collisions or wrecks, mechanical or structural failures, or simple human errors such as leaving valves open or aligning them improperly. As much as 90 percent of oil in marine waters is from chronic sources that are difficult to identify, such as urban run-off, small craft boating, improper disposal of used oil products, and illegal dumping. Since 1991, when the California Oil Spill Prevention and Response Act and the Federal Oil Pollution Act (OPA 90) took effect, there has been an 86 percent drop in the volume of oil spilled from oil tankers and barges in the United States, according to the American Petroleum Institute.

California Spills Reported to OSPR

YEAR	MARINE	TYPE OF RESPONSE	INLAND (includes spills other than oil)	TYPE OF RESPONSE
1992	1,284	Not available	—	Not available
1993	887	"	4,528	"
1994	814	"	4,899	"
1995	740	"	3,963	"
1996	648	"	4,573	"
1997	667*	"	4,791*	"
1998	686	Physical: 133 Phone: 393 None needed: 686	5,009	Physical: 201 Phone: 389 None needed: 4,419
1999	647	Physical: 148 Phone:366 None needed: 133	4,716	Physical: 194 Phone: 542 None needed: 3,980
2000	745	Physical: 114 Phone: 436 None needed: 195	5,277	Physical: 160 Phone: 569 None needed: 4,544
2001	1,100	Physical: 45 Phone: 770 None needed: 285	6,134	Physical: 122 Phone: 467 None needed: 5,542
2002	1,015	Physical: Phone: None needed:	5,799	Physical: Phone: None needed:
2003	926	Physical: 235 Phone: 622 None needed: 55	5,547	Physical: 169 Phone: 818 None needed: 4,427
2004	828	Physical: 202 Phone: 553 None needed: 73	2,415	Physical: 87 Phone: 382 None needed: 1,946

**1997 numbers are estimated, due to a change in database formats.*

Inland Spills

Inland spills most often come from pipelines, which can corrode or break. Old, leaking tanks, oil refineries, and accidents involving tanker trucks and railroad tank cars are also sources of inland oil spills. There were 2,415 inland spills reported to OSPR in 2004; most were small.

Preventing Spills

Oil spills can be reduced if everyone who handles petroleum products is taught about safe, effective ways of transporting or transferring them, keeping the products in proper containers, and of the environmental damage they can cause if spilled. At one end of the user spectrum, education should target drivers (especially those who change their own oil), recreational boaters, marina operators, mechanics and gas station attendants, as well as the general public. At the other end, education applies to people whose business is the oil industry, who work in oil fields and refineries, oil transportation, and marine fueling facilities. Most people are careful when they know the product they handle is dangerous to living things. For those few who don't care about wildlife and natural resources, we must resort to regulations and enforcement actions. They probably will care about costly fines, penalties, and criminal charges.

Effects of Oil on Wildlife

The impact of oil spills on wildlife is varied, and often deadly. When a seabird or waterfowl lands in a petroleum spill and flies away, it will preen or clean itself and ingest the toxic product. Minute amounts of oil on bird eggs can destroy them.

Fish and shellfish larvae are extremely sensitive to even small amounts of petroleum products. For example, one gallon of used motor oil dumped in a million gallons of water will kill half of all exposed Dungeness crab larvae, among other things.

Otters and some other mammals lose their insulation when their fur is coated with oil, and they suffer hypothermia, and lung, liver, and kidney damage. All of these can be fatal.

Because of oil's high dispersion factor, even small fueling spills and bilge-pump discharges from recreational boats can poison large surface areas of the aquatic environment. The aggregate effect of thousands of boaters discharging small amounts of petroleum is significant.

While organizations like the California Department of Fish and Game do everything we can to help wildlife recover from oil spill impacts, the unfortunate statistics indicate that — on average — only about 30 percent of oiled birds and mammals survive for a year or more. Survival rates vary widely by species, season, type of oil, and each animal's health before contamination. On a more positive note, that is far better than the survival rate following the tragic Exxon Valdez (Alaska) spill, in 1989. The more rescue and rehabilitation work wildlife veterinarians do, and the more facilities we create for wildlife care, the more we learn about it, and improve the animals' chances of survival.

The subject of oil spills is very broad and there is now an impressive body of books and magazine articles on oil spills, their impact, prevention, and response. We strongly recommend that you concentrate your search at your local public or college library, or the Internet. You may also wish to contact your nearest U.S. Coast Guard Marine Safety Office or Public Affairs Group.

Thank you for helping us protect California’s natural resources.

OSPR Public Affairs – DJM

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